

23. (Amended) A film forming method comprising:

a first step of supplying a hydrogen gas into a chamber;

a second step of supplying radio frequency energy in said chamber to generate plasma from said hydrogen gas by radio frequency discharge;

a third step of supplying a silicon containing gas into said chamber; and

a fourth step of forming an amorphous film comprising silicon in said chamber by decomposing said silicon containing gas using said radio frequency energy [therein],

wherein the step [supply] of supplying [said] a hydrogen gas is [stopped] discontinued simultaneously with a start of the step [supply] of [said] supplying a silicon containing gas[,] and [the stop of the supply of said hydrogen gas is continued during] throughout the [formation] forming of [said] an amorphous film comprising silicon.

24. (Amended) A film forming method comprising:

a first step of forming a silicon oxide film on a substrate by plasma chemical vapor deposition;

a second step of supplying a hydrogen gas into a chamber;

a third step of supplying radio frequency energy in said chamber to generate plasma from said hydrogen gas by radio frequency discharge;

a fourth step of supplying a silicon containing gas into said chamber; and

a fifth step of forming an amorphous film comprising silicon on said silicon oxide film in said chamber by decomposing said silicon containing gas using said radio frequency energy [therein],

wherein the step [supply] of supplying [said] a hydrogen gas is [stopped] discontinued simultaneously with a start of the [supply] step of [said] supplying a silicon containing gas[,] and [the stop of the supply of said hydrogen gas is continued during] throughout the [formation] step of [said] forming an amorphous film comprising silicon.

25. (Amended) A film forming method comprising:

a first step of forming an amorphous film comprising silicon in a chamber by decomposing a silicon containing gas using radio frequency energy [therein];

a second step of supplying a hydrogen gas into said chamber; and

a third step of supplying radio frequency energy to said hydrogen gas to generate plasma from said hydrogen gas in said chamber by radio frequency discharge,

wherein said silicon containing gas is supplied into said chamber during the [formation] step of forming of [said] an amorphous film comprising silicon before the [supply] step of supplying [said] a hydrogen gas, and the [supply] step of supplying [said] a hydrogen gas is started simultaneously with [stopping the] discontinuing a supply of said silicon containing gas.

26. (Amended) A film forming method comprising:

a first step of supplying a discharge gas into a chamber;

a second step of supplying radio frequency energy in said chamber to generate plasma from said discharge gas by radio frequency discharge;

a third step of supplying a silicon containing gas into said chamber; and

a fourth step of forming an amorphous film comprising silicon in said chamber by decomposing said silicon containing gas using radio frequency energy [therein],

wherein the step [supply] of supplying [said] a discharge gas is [stopped] discontinued simultaneously with a start of the [supply] step of supplying [said] a silicon containing gas[,] and [the stop of the supply of said discharge gas is continued during] throughout the step of [formation] forming [of said] an amorphous film comprising silicon, and

wherein said discharge gas does not contribute to film formation by itself.

27. (Amended) A film forming method comprising:

a first step of forming an amorphous film comprising silicon in a chamber by decomposing a silicon containing gas using radio frequency energy [therein];

a second step of supplying a discharge gas into said chamber; and

a third step of supplying radio frequency energy to said discharge gas to generate plasma from said discharge gas in said chamber by radio frequency discharge,

wherein said silicon containing gas is supplied into said chamber during the step [formation] of forming [said] an amorphous film comprising silicon before the [supply] step of supplying [said] a discharge gas, and the [supply] step of supplying [said] a discharge gas is started

simultaneously with [stopping the supply of] discontinuing supplying said silicon containing gas,  
and

wherein said discharge gas does not contribute to film formation by itself.

28. (Amended) A film forming method for forming a plurality of different films in a  
multilayer in a multichamber apparatus comprising a plurality of chambers coupled to each other,  
said method comprising:

a first step of supplying a hydrogen gas into one of said chambers;

a second step of supplying radio frequency energy in said one of said chambers to  
generate plasma from said hydrogen gas by radio frequency discharge;

a third step of supplying a silicon containing gas into said one of said chambers; and

a fourth step of forming an amorphous film comprising silicon as one of said different  
films in said one of said chambers by decomposing said silicon containing gas using radio frequency  
energy therein,

wherein the [supply] step of supplying [said] a hydrogen gas is [stopped]  
discontinued simultaneously with a start of the [supply] step of supplying [said] a silicon containing  
gas[,] and [the stop of the supply of said hydrogen gas is continued during] throughout the  
[formation] step of forming [of said] an amorphous film comprising silicon, and wherein each of said  
chambers forms at least one of said plurality of different films in a multilayer.

29. (Amended) A film forming method for forming a plurality of different films in a multilayer in a multichamber apparatus comprising a plurality of chambers coupled to each other, said method comprising:

a first step of forming an amorphous film comprising silicon as one of said different films in one of said chambers by decomposing a silicon containing gas using radio frequency energy [therein];

a second step of supplying a hydrogen gas into said one of said chambers; and

a third step of supplying radio frequency energy to said hydrogen gas to generate plasma from said hydrogen gas in said one of said chambers by radio frequency discharge,

wherein said silicon containing gas is supplied into said chamber during the [formation] step of forming [said] an amorphous film comprising silicon before the step [supply] of supplying [said] a hydrogen gas, and the step [supply] of supplying [said] a hydrogen gas is started simultaneously with [stopping] discontinuing the [supply] supplying of said silicon containing gas, and wherein each of said chambers forms at least one of said plurality of different films.

30. (Amended) A film forming method comprising:

a first step of forming a film comprising carbon in a chamber by decomposing a carbon containing gas using radio frequency energy [therein];

a second step of supplying a hydrogen gas into said chamber; and

a third step of supplying radio frequency energy to said hydrogen gas to generate plasma from said hydrogen gas in said chamber by radio frequency discharge,

Gen  
wherein said carbon containing gas is supplied into said chamber during the step [formation] of forming [said] a film comprising carbon before the step [supply] of supplying [said] a hydrogen gas, and the step [supply] of supplying [said] a hydrogen gas is started simultaneously with [stopping the supply of] discontinuing supplying said [silicon] carbon containing gas.

48. (Amended) A method according to claim 23 wherein  $10t \geq T$  where  $t$  is a largest period of time selected among periods of time [which have uneven values for plural times of said method] corresponding to an unstable discharge state at a start of discharge, and where  $T$  is a period of time of the [formation] forming of said amorphous film comprising silicon.

49. (Amended) A method according to claim 24 wherein  $10t \geq T$  where  $t$  is a largest period of time selected among periods of time [which have uneven values for plural times of said method] corresponding to an unstable discharge state at a start of discharge, and where  $T$  is a period of time of the [formation] forming of said amorphous film comprising silicon.

50. (Amended) A method according to claim 26 wherein  $10t \geq T$  where  $t$  is a largest period of time selected among periods of time [which have uneven values for plural times of said method] corresponding to an unstable discharge state at a start of discharge, and where  $T$  is a period of time of the [formation] forming of said amorphous film comprising silicon.